ABSTRACT OF THE DISCLOSURE

An exposure method for projecting, through a projection optical system, a predetermined pattern formed on a mask onto an object to be exposed. The exposure method includes the steps of dividing an effective light source area for illuminating the mask into plural point light sources, calculating a Zernike sensitivity coefficient that represents a sensitivity of a change of image quality of the predetermined pattern to a change of a Zernike coefficient, when wave front aberration in the projection optical system is developed into a Zernike polynomial for all divided point light sources, determining an effective light source distribution based on a combination of Zernike sensitivity coefficient of all divided point light sources, and forming the effective light source distribution by intensity of each point light source.